SPARK INDUCTION POWER CONDITIONER FOR HIGH TENSION PHYSICAL SEPARATORS

ABSTRACT

A D.C. voltage altering device includes at least one spark induction power conditioner including a first electrode connectable to a high voltage D.C. power source and a second electrode spaced from the first electrode and forming a discharging gap therebetween. The second electrode is connectable to a predetermined section of a physical separator and at least one of the electrodes is selectively positionable for altering spatial distance between same. The power conditioner induces a predetermined large amplitude, high frequency current ripple to the second electrode for creating a fluctuating voltage and fluctuating electrostatic field and maintaining continuous current flow through the gap without reversal of polarity. The spark induction power conditioner further includes a dielectric base for housing the electrodes and a plurality of fastening members threadably positionable through the base and engageable with the electrodes so that the discharging gap between the electrodes can be selectively adjusted.